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| EXAMINER |
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| WOOD, WILLIAM H |

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| SHORTENED STATUTORY PERIOD OF RESPONSE | NOTIFICATION DATE | DELIVERY MODE |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

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PTOL-90A (Rev. 10/06)

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on <u>24 November 2006</u>.

2a)☒ This action is **FINAL**.     2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1,3-17,19-31 and 33-40* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4-17,20-31 and 34-40* is/are rejected.

7)☒ Claim(s) *3,19 and 33* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All  b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>12/08/2006</u>.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____ .

**DETAILED ACTION**

Claims 1, 3-17, 19-31 and 33-40 are pending and have been examined.

***Claim Rejections - 35 USC § 103***

1.      The following is a quotation of 35 U.S.C. 103(a) which forms the basis for

all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or
> described as set forth in section 102 of this title, if the differences between the subject
> matter sought to be patented and the prior art are such that the subject matter as a whole
> would have been obvious at the time the invention was made to a person having ordinary
> skill in the art to which said subject matter pertains.  Patentability shall not be negatived by
> the manner in which the invention was made.

2.      Claims 1, 4-8, 10-11, 14-16, 20-23, 27-30 and 34-38 are rejected under

35 U.S.C. 103(a) as being unpatentable over **Miyamoto** et al. (USPN 6,986,033)

in view of **Babbitt** et al (US Publication 2002/0198972).

*Claim 1*

**Miyamoto** disclosed an apparatus configured to manage installation of

operating systems on a plurality of computing devices *(column 2, lines 40-41)*,

wherein the installation is performed across the plurality of computing devices

asynchronously *(column 6, lines 30-42, "executes OpBoot" and "ActiveOS")*,

wherein the installation comprises transferring multiple portions of data to

each of the plurality of computing devices, the multiple portions are transferred

to the plurality of computing devices asynchronously *(column 6, lines 30-42,*

*"OpBoot" and "ActiveOS")*, and wherein the portions that are transferred to the

plurality of computing devices asynchronously include one or more programs

to be executed on the plurality of computing devices to configure the plurality

of computing devices *(column 5, lines 25-26, "[t]he provisioning agent is used to*

*install desired software on the target machine", line 30, "agent is part of the*

*ActiveOS", lines 32-33).*

**Miyamoto** did not explicitly state transferring multiple portions to the plurality

of computing devices concurrently. **Babbitt** demonstrated that it was known at

the time of invention to transfer data/software/OS via multicasting

simultaneously/concurrently to multiple computers (page 1, paragraph 0005,

"[m]ulticasting is the transmission of information over the intranet to a select

group of clients ... information may be transmitted to multiple clients

simultaneously", "once the client obtains the desired operating system files ...";

paragraph 0008, "[m]ultiple clients can listen on a multicast address and

obtain the data simultaneously when a file server process transmits the data").

It would have been obvious to one of ordinary skill in the art at the time of

invention to implement the installation system of **Miyamoto** with

simultaneous/concurrent data transmission for downloading installable

software/data/OS as found in **Babbitt**'s teaching. This implementation would

have been obvious because one of ordinary skill in the art would be motivated

to transmit data quickly to many destinations and thus speed the operating of

a system (page 1, paragraphs 0005 and 0008, "simultaneous").

## Claim 4

**Miyamoto** and **Babbitt** disclosed an apparatus as recited in claim 2, wherein the portions that are transferred to the plurality of computing devices concurrently comprise an image of the operating system being deployed *(page 1, paragraphs 5-7; files)*, and wherein the image of the operating system is transferred to the plurality of computing devices after the one or more programs are executed on the plurality of computing devices *(**Babbitt**: page 1, paragraphs 5-10; addresses are successfully configured into the client and thus programs executed before OS arrival)*.

## Claim 5

**Miyamoto** and **Babbitt** disclosed an apparatus as recited in claim 1, wherein installation of the operating systems is performed in multiple steps, and wherein the apparatus is configured to perform a first set of the multiple steps asynchronously across the plurality of computing devices, and, after a particular one of the multiple steps is completed, to perform one or more of the remaining steps of the multiple steps concurrently across the plurality of computing devices *(**Babbitt**: page 1, paragraphs 5-7; first network address, then operating system files; **Miyamoto**: figure 2)*.

<u>Claim 6</u>

**Miyamoto** and **Babbitt** disclosed an apparatus as recited in claim 5, wherein

the one or more remaining steps includes a step of downloading an operating

system image to the plurality of computing devices *(**Babbitt***: page 1,*

*paragraphs 5-7; first network address, then operating system files).*


<u>Claim 7</u>

**Miyamoto** and **Babbitt** did not explicitly state an apparatus as recited in claim

1, wherein the apparatus further comprises:

- a controller to maintain a record of the plurality of computing devices

   being managed by the apparatus *(**Babbitt***: page 1, paragraph 6;*

   *receiving address for communication to other computers; **Miyamoto***:*

   *figure 2, element 202);*

- a network boot service to control how the plurality of computing

   devices are to boot *(**Babbitt***: page 1, paragraphs 5-7; boot service*

   *being the collective boot operations of the various systems; **Miyamoto***:*

   *figure 2, element 202);* and

- image distribution service to store one or more operating system

   images an that can be installed as the operating system for one or

   more of the plurality of computing devices *(**Babbitt***: page 1,*

   *paragraph 7).*

## Claims 8 and 23

**Miyamoto** and **Babbitt** disclosed an apparatus as recited in claim 1, wherein the apparatus further comprises a network boot service to:

- receive, from one of the plurality of computing devices, information describing *hardware* installed on the computing device *(column 5, lines 25-30)*; and

- use the received information to generate a deployment agent to be downloaded to the computing device and used to install the operating system on the computing device *(column 5, lines 25-30)*.

## Claim 10

**Miyamoto** and **Babbitt** disclosed a method of deploying an operating system on a plurality of computing devices, the method comprising:

- performing a first portion of an installation process on each of the plurality of computing devices asynchronously across the plurality of computing devices *(Miyamoto: column 6, lines 30-41)*; and

- performing a second portion of the installation process on each of the plurality of computing devices concurrently *(Babbitt: page 1, paragraphs 5-7)*

- *And as claim 1 above.*

*Claim 11*

**Miyamoto** and **Babbitt** disclosed a method as recited in claim 10, wherein performing the second portion comprises downloading an operating system image to the plurality of computing devices *(**Babbitt**: page 1, paragraphs 5-7)*.


*Claim 14*

**Miyamoto** and **Babbitt** disclosed one or more computer readable media having stored thereon a plurality of instructions that, when executed by one or more processors, causes the one or more processors to:

- receive, from each of a plurality of computing devices, an indication that the computing device is to have an operating system installed on the computing device *(**Babbitt**: page 1, paragraphs 5-7)*;

- for each of the plurality of computing devices, identify, in response to receiving the indication, a set of steps to be taken in order to install an operating system on the computing device *(**Babbitt**: page 1, paragraphs 5-7)*; and

- control installation of the operating systems on the plurality of computing devices asynchronously and in parallel *(**Babbitt**: page 1, paragraphs 5-7; **Miyamoto**: column 6, lines 30-41)*.

- *And as claim 1 above.*

## Claim 15

**Miyamoto** and **Babbitt** disclosed one or more computer readable media as recited in claim 14, wherein the indication that the computing device is to have an operating system installed is an indication that the computing device has been powered-on *(Babbitt: page 1, paragraph 6)*.

## Claim 16

**Miyamoto** and **Babbitt** disclosed one or more computer readable media as recited in claim 14, wherein one or more of the plurality of computing devices currently has no operating system installed *(Babbitt: page 1, paragraph 5, first three sentences)*.

## Claim 20

**Miyamoto** and **Babbitt** disclosed one or more computer readable media as recited in claim 18, wherein the portions that are transferred to the plurality of computing devices in parallel comprise an image of the operating system being deployed *(Babbitt: page 1, paragraphs 5-7)*.

## Claim 21

**Miyamoto** and **Babbitt** disclosed one or more computer readable media as recited in claim 14, wherein the instructions cause the one or more processors to perform multiple steps of the set of steps asynchronously across the

plurality of computing devices, and, after a particular one of the set of steps is completed, to perform one or more of the remaining steps of the set of steps in parallel across the plurality of computing devices *(**Babbitt**: page 1, paragraphs 5-7).*

## Claim 22

**Miyamoto** and **Babbitt** disclosed one or more computer readable media as recited in claim 21, wherein the one or more remaining steps includes a step of downloading an operating system image to the plurality of computing devices *(**Babbitt**: page 1, paragraphs 5-7).*

## Claims 27 and 34-38

The limitations of claims 27 and 32, 34-38 correspond to the limitations of claims 1-7, 10-11, 14-16, 18-22 and 27-30 and as such are rejected in the same manner.

## Claim 28

**Miyamoto** and **Babbitt** disclosed a method as recited in claim 27, wherein the same operating system is to be installed on each of the plurality of devices *(**Babbitt**: page 1, paragraphs 5-7; clearly some systems are installing the same OS from the same multicasting server).*

*Claim 29*

**Miyamoto** and **Babbitt** disclosed a method as recited in claim 27, wherein a different operating system is to be installed on at least a subset of the plurality of devices *(**Babbitt**: page 1, paragraphs 5-7; clearly some system are installing differing OS's from differing multicasting servers).*

*Claim 30*

**Miyamoto** and **Babbitt** disclosed a method as recited in claim 27, wherein one or more of the plurality of devices currently has no operating system installed *(**Babbitt**: page 1, paragraph 5, first three sentences).*

3.     Claims 9, 13 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Miyamoto** et al. (USPN 6,986,033) in view of **Babbitt** et al. (US Patent Application Publication US 2002/0198972) in view of **Curtis** et al. (USPN 6,687,902).

*Claim 9*

**Babbitt** did not explicitly state an apparatus as recited in claim 1, wherein the installation comprises maintaining a record of what operations are performed when installing the operating systems on the plurality of computing devices. **Curtis** demonstrated that it was known at the time of invention to record installation steps (column 6, lines 38-47).  It would have been obvious to one of

ordinary skill in the art at the time of invention to implement the installation

system of **Babbitt** with the logging of installation steps/changes as found in

**Curtis**'s teaching. This implementation would have been obvious because one

of ordinary skill in the art would be motivated to provide a system, which can

undo changes or fix errors created by incorrect or mistaken installations

(**Curtis**: column 6, lines 38-47).

*Claim 13*

**Babbitt** disclosed a method as recited in claim 10, further comprising adding

an indication of the installation process performed on each of the plurality of

computing devices to a log. **Curtis** demonstrated that it was known at the time

of invention to record installation steps (column 6, lines 38-47; column 5, line

46 to column 6, line 2). It would have been obvious to one of ordinary skill in

the art at the time of invention to implement the installation system of **Babbitt**

with the logging of installation steps/changes as found in **Curtis**'s teaching.

This implementation would have been obvious because one of ordinary skill in

the art would be motivated to provide a system, which can undo changes or fix

errors created by incorrect or mistaken installations (**Curtis**: column 6, lines

38-47).

*Claim 26*

**Babbitt** did not explicitly state one or more computer readable media as recited

in claim 14, wherein the plurality of instructions further cause the one or more

processors to log, for each of the plurality of computing devices, the set of steps

taken in order to install the operating system on the computing device.  **Curtis**

demonstrated that it was known at the time of invention to record installation

steps (column 6, lines 38-47).  It would have been obvious to one of ordinary

skill in the art at the time of invention to implement the installation system of

**Babbitt** with the logging of installation steps/changes as found in **Curtis**'s

teaching.  This implementation would have been obvious because one of

ordinary skill in the art would be motivated to provide a system, which can

undo changes or fix errors created by incorrect or mistaken installations

(**Curtis**:  column 6, lines 38-47).

4.      Claims 12, 24 and 25 are rejected under 35 U.S.C. 103(a) as being

unpatentable over **Miyamoto** et al. (USPN 6,986,033) in view of **Babbitt** et al.

(US Patent Application Publication US 2002/0198972) in view of **Hofmann** et

al. (USPN 6,236,983).

*Claim 12*

**Miyamoto** and **Babbitt** did not explicitly state a method as recited in claim 10,

wherein performing the first portion comprises:

- downloading a deployment agent loader to obtain, from each of the

   plurality of computing devices, information describing hardware

   installed on each of the plurality of computing devices *(Miyamoto:*

   *column 25-31)*; and

- downloading, to each of the plurality of computing devices, a

   deployment agent, wherein the deployment agent downloaded to a

   particular computing device is generated based on the received

   information regarding the particular computing device.

**Hofmann** demonstrated that it was known at the time of invention to download

discovery agents for information gathering (column 3, lines 35-41). It would

have been obvious to one of ordinary skill in the art at the time of invention to

implement the operating system installation system of **Babbitt** with

downloading discovery agent software as found in **Hofmann**'s teaching. This

implementation would have been obvious because one of ordinary skill in the

art would be motivated to reduce user interaction (**Hofmann**: column 3, lines

41-43).


*Claim 24*

**Miyamoto** and **Babbitt** did not explicitly state one or more computer readable

media as recited in claim 14, wherein the set of steps includes steps of:

- downloading a deployment agent loader to one of the plurality of

   computing devices;

- receiving, from the deployment agent loader, information describing hardware installed on the one computing device;

- dynamically generating a deployment agent for the one computing device based at least in part on the hardware installed on the one computing device; and

- downloading the dynamically generated deployment agent to the one computing device.

**Hofmann** demonstrated that it was known at the time of invention to download discovery agents (column 3, lines 35-41). It would have been obvious to one of ordinary skill in the art at the time of invention to implement the operating system installation system of **Babbitt** with downloading discovery agent software as found in **Hofmann**'s teaching. This implementation would have been obvious because one of ordinary skill in the art would be motivated to reduce user interaction (**Hofmann**: column 3, lines 41-43).

*Claim 25*

**Miyamoto** and **Babbitt** or more computer readable media as recited in claim 24, wherein the set of steps further includes:

- downloading, in response to a request received from the deployment agent on the one computing device, an image of an operating system to the one computing device *(**Babbitt**: page 1, paragraphs 5-7).*

5.      Claims 17 and 31 are rejected under 35 U.S.C. 103(a) as being

unpatentable over **Miyamoto** et al. (USPN 6,986,033) in view of **Babbitt** et al.

(US Patent Application Publication US 2002/0198972) in view of **Agnihotri** et

al. (USPN 6,763,456).

*Claim 17*

**Babbitt** did not explicitly state one or more computer readable media as recited

in claim 14, wherein one or more of the plurality of computing devices

currently has an operating system installed.  **Agnihotri** demonstrated that it

was known at the time of invention to install clean/update installations

(column 9, lines 38-48), thus an operating system already is installed.  It would

have been obvious to one of ordinary skill in the art at the time of invention to

implement the installation system of **Babbitt** with update or replace an existing

operating system as found in **Agnihotri**'s teaching.  This implementation would

have been obvious because one of ordinary skill in the art would be motivated

to keep a system state-of-the-art and repair damaged systems (**Agnihotri**:

column 9, lines 38-48).

*Claim 31*

**Babbitt** did not explicitly state a method as recited in claim 27, wherein one or

more of the plurality of devices currently has an operating system installed.

**Agnihotri** demonstrated that it was known at the time of invention to install

clean/update installations (column 9, lines 38-48), thus an operating system already is installed. It would have been obvious to one of ordinary skill in the art at the time of invention to implement the installation system of **Babbitt** with update or replace an existing operating system as found in **Agnihotri**'s teaching. This implementation would have been obvious because one of ordinary skill in the art would be motivated to keep a system state-of-the-art and repair damaged systems (**Agnihotri**: column 9, lines 38-48).

6.      Claims 39 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Miyamoto** et al. (USPN 6,986,033) in view of **Babbitt** et al. (US Patent Application Publication US 2002/0198972) in view of **Paul** et al. (US Patent Application Publication US 2002/0161868).

*Claims 39 and 40*

**Babbitt** did not explicitly state setting one or more BIOS or RAID parameters. **Paul** demonstrated that it was known at the time of invention to configure BIOS parameters such as address for multicast booting (page 3, paragraphs 0025-0033) and for use in other hardware platforms (page 3, paragraph 0025). Official Notice is taken that RAID is a commonly used hardware scheme. It would have been obvious to one of ordinary skill in the art at the time of invention to implement the multicast system of **Babbitt** with BIOS and RAID parameter configuration as suggested by **Paul**'s teaching. This implementation

would have been obvious because one of ordinary skill in the art would be

motivated to implement the initial parameters for operation in a standard

manner for easy design and maintainability (page 3, paragraph 0029, 0031;

page 7, paragraph 0072).


### *Allowable Subject Matter*

7.    Claims 3, 19 and 33 are objected to as being dependent upon a rejected

base claim, but would be allowable if rewritten in independent form including

all of the limitations of the base claim and any intervening claims.


### *Response to Arguments*

8.    Applicant's arguments filed 24 November 2006 have been fully

considered but they are not persuasive.  Applicant argues there is insufficient

motivation for the proposed combination of **Miyamoto** and **Babbitt** (page 14

and 15 of Response).  Applicant argues **Babbitt** teaches away from the

combination (Response:  page 15, second paragraph).  Applicant cites a portion

of **Babbitt** (paragraph 0005, page 1) and in particular the phrase, "[u]sing

multicasting, instead of a file server process transmitting boot information to

one client at a time".  This phrase according to Applicant, would lead one of

ordinary skill in the art away from making a combination of **Miyamoto** (with

asynchronous transfer) and **Babbitt** (with multicast/concurrent transfer).

However, Applicant ignores the phrase, "[m]ultiple clients can listen on a

multicast address and obtain the data simultaneously when a file server

process transmits the data" (paragraph 0008). The additional phrase does not

"teach away" as asserted by Applicant and instead simply demonstrates the

concept of multicast as providing simultaneous transfer, simultaneous being

faster and less redundant. Further, Applicant's argument fails to account for

**Miyamoto**'s established function of configuring the target computing devices in

relation to the combination of **Miyamoto** and **Babbitt**. The combination allows

specific information for a specific configuration of a specific computing device

to asynchronously (and thus specifically) be transferred to that device while

repetitive OS information common to many machines may be transferred

quickly and using multicast or concurrent operations. **Babbitt** was cited for

and clearly demonstrates the benefits of concurrency and does not teach away

from **Miyamoto** continuing to perform its function of configuring devices when

specificity is required. The arguments concerning claim 3 are persuasive and

therefore, claim 3 is no longer rejected. Having addressed Applicant's

arguments, the rejections are maintained as indicated.

### *Conclusion*

9.  **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension

of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire

THREE MONTHS from the mailing date of this action. In the event a first reply

is filed within TWO MONTHS of the mailing date of this final action and the

advisory action is not mailed until after the end of the THREE-MONTH

shortened statutory period, then the shortened statutory period will expire on

the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action.  In

no event, however, will the statutory period for reply expire later than SIX

MONTHS from the mailing date of this final action.

### *Correspondence Information*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William H. Wood whose telephone number is (571)-272-3736. The examiner can normally be reached 10:00am - 4:00pm Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (571)-272-3756.  The fax phone numbers for the organization where this application or proceeding is assigned are (571)273-8300 for regular communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system.  Status information for published applications may be obtained form either Private PAIR or Public PAIR.  Status information for unpublished applications is available through Private PAIR only.  For more information about the PAIR systems, see http://pair-direct.uspto.gov.  For questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-3900.

William H. Wood
Patent Examiner
AU 2193
February 5, 2007